

620 North I-85 Service Rd., Charlotte, NC 28216

Phone (704) 399-4000  
Fax (704) 399-4090

RECEIVED  
N.C. Dept. of EHNR  
JUL 14 1997  
Winston-Salem  
Regional Office

July 9, 1997

Mr. Waddell Waters  
NCDEM Groundwater Section  
Winston-Salem Regional Office  
585 Waughtown Street  
Winston-Salem 27107

Subject: Report of Underground Storage Tank Closure  
707 East Harden Street  
Graham, North Carolina, Alamance County  
ESI Project No. C-1512

' OLD SITECC STATION '  
AW

Dear Mr. Waters:

Enclosed is the **Underground Storage Tank Closure Report** for the site located at 707 East Harden Street in Graham, NC in Alamance County.

Sincerely,

**ECOLOGICAL SERVICES, INC.**

Diana Lanier  
Environmental Auditor

enclosure(s)

RECEIVED  
N.C. Dept. of EHNH

JUL 14 1997

Winston-Salem  
Regional Office

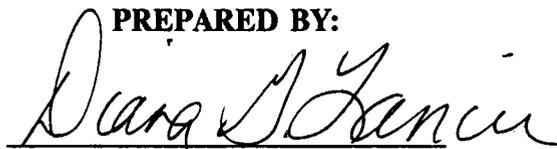
**REPORT OF  
UNDERGROUND STORAGE TANK CLOSURE**

European Auto Repair  
707 East Harden Street  
Graham, North Carolina

**PREPARED FOR:**

William P. Gomory  
BB&T  
220 South Main Street  
Graham, NC 27253

**PREPARED BY:**



Diana G. Lanier  
Ecological Services, Inc.  
620 North I-85 Service Road  
Charlotte, North Carolina 28216

Report No. C-1512  
July 9, 1997

## Table of Contents

UST Closure Report ..... 1-6

Figures:     1)     USGS Topographic Map (1981)  
              2)     Graham Street Map (1996)  
              3)     A -     Site Location Map (1997)  
                  B -     Sample Location Map (1997)

### Appendices:

- A.     Certificate Of Tank Disposals
- B.     Chain Of Custodies
- C.     Analytical Results

**I. General Information**

**A. Ownership of UST(s)**

1. *Name of underground storage tank owner (UST) owner-* The owner of the four gasoline USTs was Mrs. Fern Pike.
2. *Owner, address, and telephone number-* Mrs. Pike lives at 709 East Harden Street, Graham, North Carolina 27253. Her phone number is 1-910-228-1366.

**B. Facility Information**

1. *Facility name-* The four gasoline USTs were located at Shell Oil, currently operating as European Auto Repair.
2. *Facility ID#:-* The facility's ID# is unknown.
3. *Facility address, telephone number, and county-* The facility is located at 707 East Harden Street, Graham, North Carolina in Alamance County. The facility phone number is 1-910-226-6455. A map indicating the location of the facility is included as Figures 1 and 2.

**C. Contacts**

1. *Name, address, telephone number, and job title of primary contact person-* The primary contact person was William P. Gomory with BB&T at 220 S. Main Street, Graham, NC. The phone number is 1-910-570-5888.
2. *Name, address, and telephone number of closure contractor-* In March 1990, four 4,000 gallon gasoline USTs were removed by Mr. A. M. Perry with J. W. Long Sand & Grading at 1202 Rauhut Street, Burlington, North Carolina 27215. His phone number is 1-910-227-4244.
3. *Name, address, and telephone number of primary consultant-* UST removal activities conducted in 1990 should be addressed to the same as C #2. Sampling activities conducted on June 24 and 25, 1997 and the 1997 closure report for the 1990 UST closure activities should be addressed to Diana G. Lanier with Ecological Services, Inc. (ESI) at 620 North I-85 Service Road, Charlotte, North Carolina 28216. Her phone number is 1-704-399-4000
4. *Name, address, telephone number, and State certification number of laboratory-* Soil samples collected on June 24 and 25, 1997 were submitted to Shealy Environmental Services, Inc. at 106 Vantage Point Drive, Cayce, South Carolina 29033. The phone number is 1-803-791-9700 and the NCDEHNR No. is 329.

**D. UST Information**

TANK NO.	INSTALLATION DATES	SIZE IN GALLONS	TANK DIMENSIONS	LAST CONTENTS	PREVIOUS CONTENTS
2599	1964	4,000	L; UNKNOWN, W; UNKNOWN, H; APPROX 7.5 FT	GASOLINE	NONE
2600	1964	4,000	L; UNKNOWN, W; UNKNOWN, H; APPROX 7.5 FT	GASOLINE	NONE
2604	1964	4,000	L; UNKNOWN, W; UNKNOWN, H; APPROX 7.5 FT	GASOLINE	NONE
2607	1964	4,000	L; UNKNOWN, W; UNKNOWN, H; APPROX 7.5 FT	GASOLINE	NONE

**E. Site Characteristics**

1. *Describe any past releases at this site.*- No known past releases for this site were known or on file with DEHNR.
2. *Is the facility active or inactive at this time? If the facility is inactive note the last time the UST(s) were in operation.*- At this time, the facility operates as European Auto Repair. ESI understands that the subject site formerly operated as a gas station/garage, Shell Oil from 1964 to 1979, followed by a several commercial businesses. From 1988 to 1989, the subject site operated as an Amoco gas station followed by an auto repair shop to present. According to the USTs owner, Ms Pike, the USTs were in operation from 1964 to six months prior to there removal in March 1990.
3. *Describe any surrounding property use (for example, residential, commercial, farming, etc.)*- The subject site is located in a commercial/residential district in the southwest quadrant of the intersection of 1-40/85 and Highway 54 (East Harden Street). The subject site is surrounded by undeveloped land and residential property to the north; a vacant lot, East Harden Street, and commercial property to the east; I-40/85, right of way, and entrance ramp to the interstate to the south; and a commercial property, Ember's Motor Lodge to the west.
4. *Describe site geology/hydrogeology*-The vicinity of the subject site consists of rolling hills. The vicinity of the subject site appears to slope towards the east. The subject property slopes towards the north and east corners of the subject lot. A small tributary lies to the northeast of the subject site at the bottom of an approximately 30 foot slope.

Based on local topography, the anticipated groundwater flow the subject site is in an easterly direction.

The facility and the surrounding area is serviced by the City of Graham, which includes water and electric.

## II. Closure Procedures

A. *Describe preparations for closure including the steps taken to notify authorities, permits, obtained and steps taken to clean and purge the tank.*- According information obtained during a discussion with Mr. Waddell Waters of the NCDEHNR Winston-Salem Regional Office Groundwater Division on June 24, 1997, a Notice of Intent was submitted to DEHNR in 1990, however, a UST closure report did not follow. On June 20, 1997, ESI was requested to file a UST closure report to DEHNR for the 1990 UST closure activities on behalf of BB&T. ESI tried to ascertain all relevant UST closure information, to the best of our ability, however, some pertinent information could not be obtained for this report due to unavailable knowledge of past closure activities.

B. *Note the amount of residual material pumped from the tank(s).*- On March 29 and 30, 1997, prior to removal activities, the residual material removed from each UST included:

- 68 gallons of gasoline from tank #2599.
- 65 gallons of gasoline from tank #2600
- 60 gallons of gasoline from tank #2604, and
- 104 gallons of gasoline from tank #2607.

C. *Describe the storage, sampling, and disposal of the residual material.*- Information pertaining to the storage and sampling of residual material in the USTs could not be ascertained. ESI understands that the disposal of the residual material was conducted in accordance with US Environmental Protection Agency (EPA) regulations by a licensed sub-contractor of Safeway Tank Disposal. The identity of the sub-contractor could not be determined.

### D. Excavation

1. *Describe excavation procedures noting the condition of the soils and the dimensions of the excavation in relation to the tank(s), piping and /or pumps.*- According to information obtained during a discussion with Mr. Perry, closure contractor for the 1990 UST closure activities, the excavation involved the removal of four 4,000 gallon gasoline USTs.

According to Mr. Perry, four 4,000 gallon gasoline USTs were located on the southeast side of the subject building. Excavation activities included the removal of the USTs, on-site stockpiling of excavated materials, and refilling of the excavated pit with the stockpiled materials. The approximate vertical and horizontal dimension of the excavated pit were: vertical to 11 feet; horizontal 42 feet north to south by 35 feet east to west. During excavation activities, no contact with groundwater was observed.

ESI understands that removal activities of on-site tanks was initiated by the J. W. Long Sand & Grading Company of Burlington, NC. The transport company that delivered the removed USTs to Safeway Tank Disposal, Inc. in Colfax, NC for proper disposal could not be determined. The Certificate of Tank Disposals is included in Appendix A.

2. *Note the depth of the tank burial(s) (from the land surface to the top of the tank).*- According to Mr. Perry, the four gasoline USTs were encountered at approximately two feet below grade.
3. *Quantity of soil removed.*- During removal activities, excavated material was removed to an approximate depth of eleven feet and stockpiled on site. The exact tonnage is unknown. No soil was removed from the subject site.
4. *Describe soil type(s).*- The vicinity of the subject site contains metamorphic well-foliated megacrystic granitic rock which contains hornblende. In addition, mafic metavolcanic rock which contains metamorphosed basaltic to andesitic tuffs and flows and hypabyssal intrusives and minor felsic metavolcanic rock is also common for the area.
5. *Type and source of backfill used.*- According to Mr. Perry, along with the excavated soil, approximately 300 tons of backfill was used to refill the excavated pit. The soil used for backfill was transported from J. W. Sand & Grading out of Burlington, NC and consisted of clean compacted native red to brown clayey-sand.

#### **E. Contaminated Soil**

1. *Describe how it was determined to what extent to excavate the soil.*- ESI understands that soil was excavated to just below the depth of the USTs, approximately eleven feet.
2. *Describe the method of temporary storage, sampling and treatment/disposal of soil.*- ESI understands that during the tank removal activities, excavated soil was stockpiled on-site. After the tanks were removed, the stockpiled soil was placed back into the pit.

#### **III. Site Investigation**

- A. *Provide Information on field screening and observations, include methods used to calibrate field screening instruments.*- ESI understands that field screening activities were not conducted during removal activities.
- B. *Describe soil sampling points and sample procedures used, including:*
  - Location of samples
  - Type of sample (from excavation, stockpiled soil, etc)
  - Sample collection procedures (grab, split spoon, hand auger, etc.)
  - Depth of soil samples (below land surface)
  - Whether samples were taken from side or floor of an excavation
  - Sample identification
  - Sample analyses

Limited information could be obtained pertaining to sampling activities conducted during UST removal activities in 1990, therefore, ESI conducted sampling activities at the subject site in the area of the former USTs on June 24 and 25, 1997.

During sample collection activities, utilizing a Geoprobe™ direct push rig, refusal was encountered at an approximate depth of twelve feet. Due to refusal, samples were collected

to approximately twelve feet at three points in the area of the former USTs.

Applying visual and olfactory techniques and following DEHNR sampling procedures, five soil samples, GA (0'-4'), GA (4'-8'), GA (8'-10'), GB (9'-13'), and GC (8'-11') were collected in the area of the former USTs and submitted to a certified laboratory for analysis of total petroleum hydrocarbons (TPH) for gasoline range organics (GRO) by EPA Method 5030/Modified 8015. A sample point location map is included as Figure 3.

According to Mr. Perry, refusal encountered during sampling activities may be due to refilling activities in 1990, excavated concrete was placed in the pit at an approximate depth of eleven feet. In addition, during June 24 and 25, 1997 sampling activities, a hard soil material, similar to sandstone was encountered at approximately twelve feet.

**C. Describe groundwater or surface water sampling procedures used, including:**

- Location of samples
- Sample collection procedures (grab, bailer, etc.)
- Sample identification
- Sample analyses

During Geoprobe™ sampling activities conducted on June 24, 1997, groundwater sampling was attempted in several areas to the east, downgradient, and within fifteen feet of the former tank area. Refusal was encountered at approximately the same depth of ten feet at all attempted points.

**D. Quality Control Measures**

- Describe sample handling procedures including sample preservation and transportation.
- Describe decontamination procedures used.
- Describe time and date samples were collected and date submitted to lab.
- Describe samples collected for quality control samples (e.g. duplicates, field blanks, trip blanks, etc). Include methods used to obtain these samples and analytical parameters.
- Discuss how results of quality control samples may have affected your interpretation of soil, groundwater or surface water sample results.

Soil samples for laboratory analysis were collected following DEHNR sampling protocol. Jarred soil samples were placed on ice in a cooler immediately after sample collection and delivered to Shealy Environmental Services, Inc. in Cayce, SC.

During sampling activities, three soil samples, GA (0'-4'), GA (4'-8'), and GA (8'-10') were collected on June 24, 1997 and two soil samples, GB (9'-13') and GC (8'-11') were collected on June 25, 1997. These five soil samples were submitted for laboratory analysis on June 27, 1997.

**E. Investigation Results**

- Describe results of the site-sensitivity evaluation (SSE), (if SSE was not conducted, explain why not).
- Describe methods of analyses used (include U.S. EPA method number).
- Describe analytical results for samples; discuss in relation to site specific cleanup level or action level, as appropriate.

ESI was requested to submit a UST tank closure report of behalf of BB&T, an SSE was not included in the requested scope of work. In addition, a review of the 1990 UST removal activities did not indicate that a SSE had been conducted.

Based on the soil and groundwater sampling activities, it can be inferred that a semi-permeable to impermeable layer of soil is situated at approximately twelve feet below grade at the subject site.

During June 24 and 25, 1997 sampling activities, five soil were collected in the area of the former USTS for laboratory analysis of TPH for GRO by EPA Method 5030/ Modified 8015. The analytical results of all five samples indicated TPH for GRO concentrations below the North Carolina General Action Level (NCGAL) of 10 ppm or 10,000 ppb for TPH of GRO in soil. The chain-of-custody records for these samples are included in Appendix B. The laboratory analytical information for each sample is included in Appendix C.

#### IV. Conclusion and Recommendations

*Include probable sources of contamination, further investigation or remediation tasks, or whether no further action is required.*

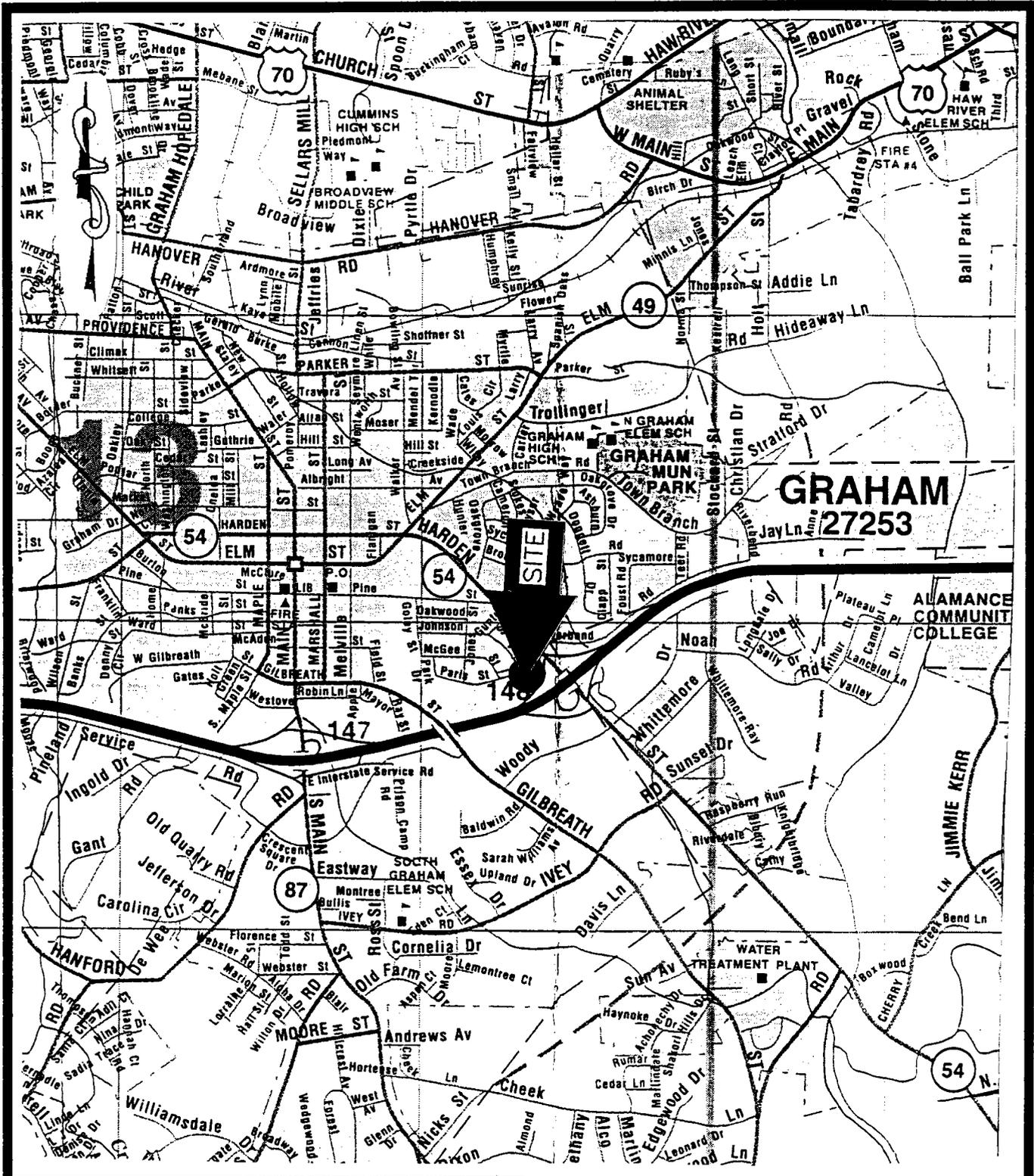
On June 24 and 25, 1997, utilizing Geoprobe™ technology, ESI conducted soil sampling activities in the area of four former gasoline USTs at the subject site.

Based analytical results, five soil samples, GA (0'-4'), GA (4'-8'), GA (8'-10'), GB (9'-13'), and GC (8'-11'), which were collected in the area of the former USTs, did not indicate the presence of TPH for GRO in soil above the NCGAL.

Based on observations and analytical results, soils in the area of the former USTs do not appear to contain petroleum constituents in concentrations above the NCGAL, therefore, no further assessment is recommended at this time.

Based on these findings, a No Further Action (NFA) status may be warranted for this site.

***FIGURES***



DATE: 07-08-97

ESI JOB#: C-1512

APPROX. SCALE: 1 IN = 4,325 FT

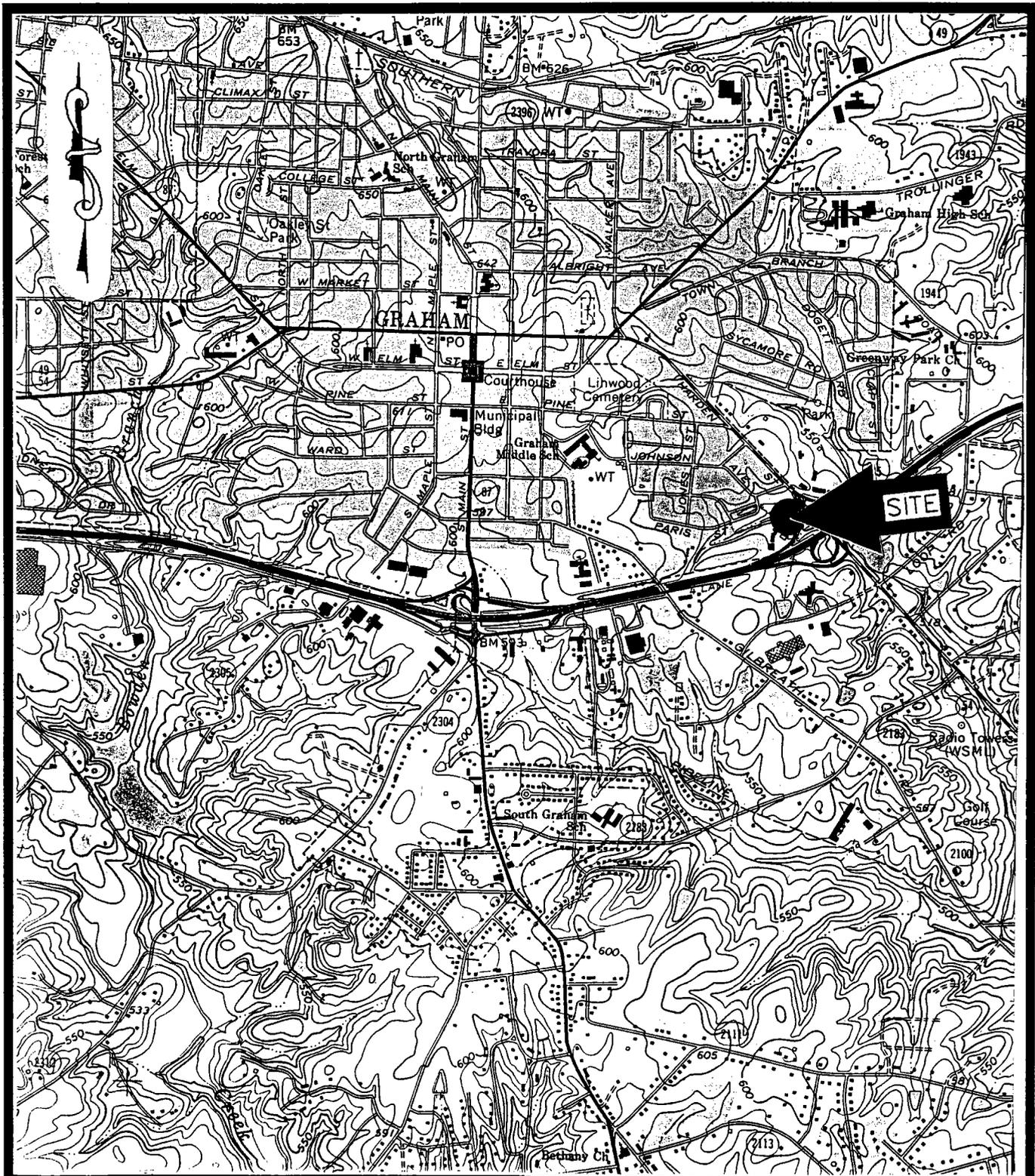
FIGURE 2

1996 GRAHAM STREET MAP

EUROPEAN AUTO REPAIR

707 EAST HARDEN STREET

GRAHAM, NC IN ALAMANCE COUNTY



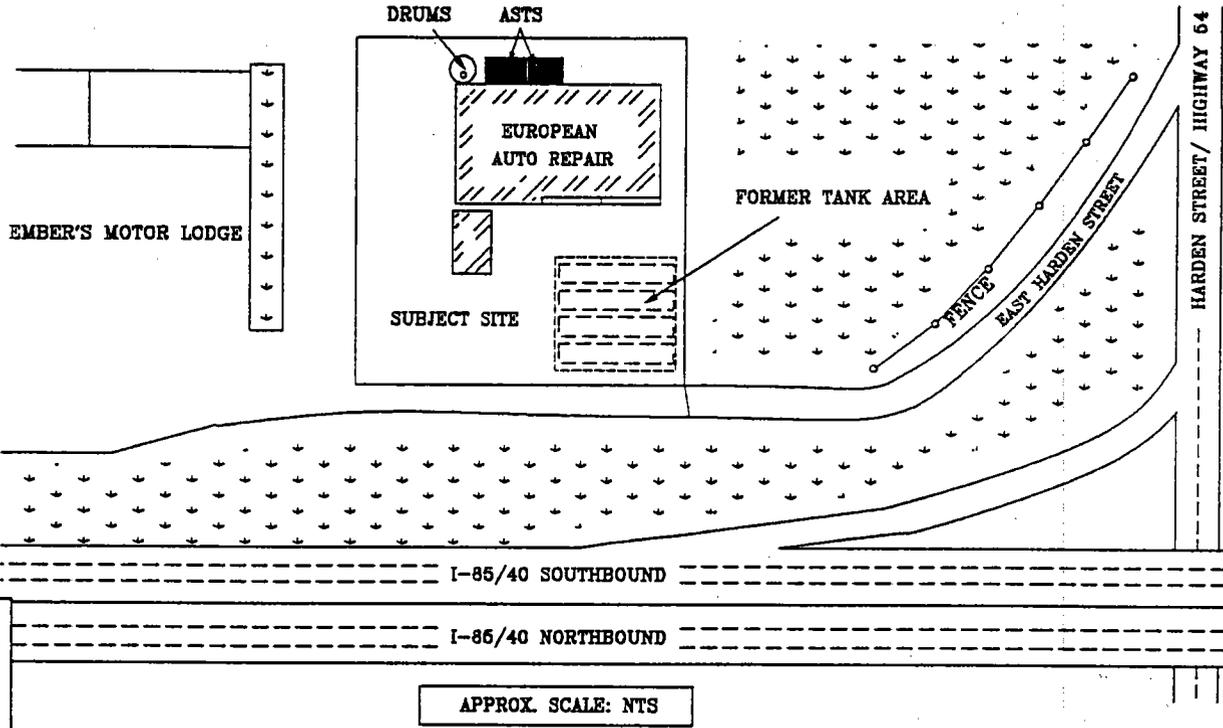
DATE: 07-08-97

ESI JOB#: C-1512

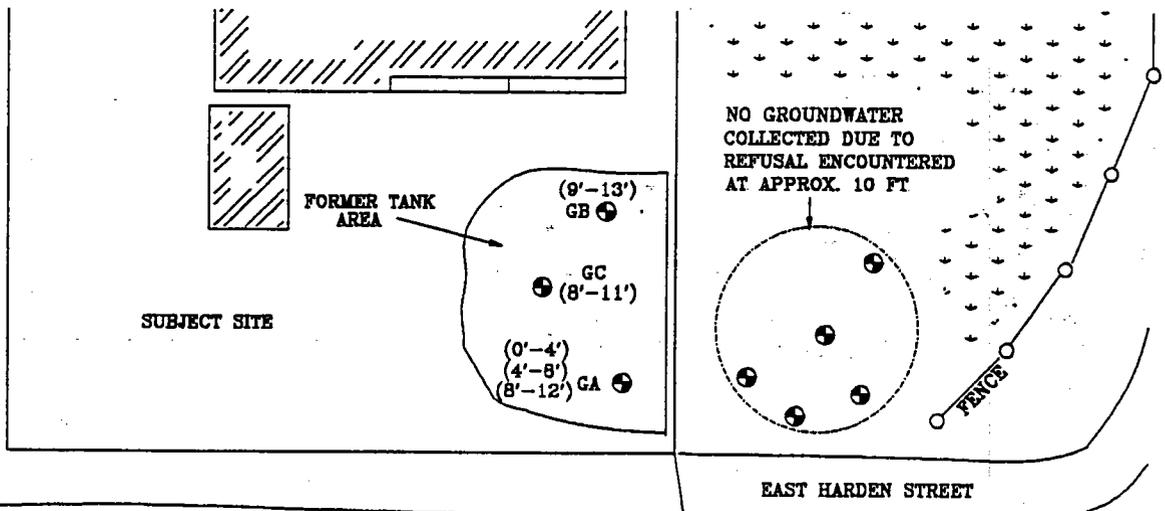
APPROX. SCALE: 1 IN = 2,000 FT

**FIGURE 1**  
**1981 USGS TOPOGRAPHIC MAP**  
**EUROPEAN AUTO REPAIR**  
**707 EAST HARDEN STREET**  
**GRAHAM, NC IN ALAMANCE COUNTY**

A



B



ANALYTICAL RESULTS

SAMPLE ID/ DEPTH (FT)	UG/KG = PPB
GA 0-4	< 637
GA 4-8	< 562
GA 8-10	< 579
GB 9-13	3,000
GC 8-11	3,390

APPROX. SCALE: 1 IN = 29 FT

⊕ - SAMPLING POINT LOCATION

SOIL: GA, GB, GC

DATE: 07-08-97

CAD FILENAME: C1512.GRA

JOB NO: C-1512



FIGURE 3A: SITE MAP  
 FIGURE 3B: GEOPROBE™  
 SAMPLE LOCATION MAP  
 EUROPEAN AUTO REPAIR  
 707 EAST HARDEN STREET  
 GRAHAM, NC

***APPENDIX A***

***Certificate of Tank Disposals***



# ***APPENDIX B***

## ***Chain of Custody Records***



# ***APPENDIX C***

## ***Analytical Results***



ECOLOGICAL SERVICES, INC.

Ecological Services, Inc.  
620 N. I-85 Service Rd  
Charlotte, NC 28216  
Phone #: (704)-399-4000  
Fax #: (704)-399-4090

## Analytical Results

Client: Branch Banking & Trust  
Graham, NC

Date Collected: 06-24/25-97  
Date Analyzed: 07-03-97  
Date Reported: 07-08-97

Project: European Auto Repair  
Graham, NC

EPA Method: 5030/ Modified 8015  
Laboratory: Shealy Environmental  
Services, Inc.

ESI Job #: C-1512

NCDEHNR No: 329

SAMPLE ID	DEPTH	EPA METHOD 5030/ MODIFIED 8015	UNITS
	FEET	RESULTS	UG/KG = PPB
GA	0-4	< 637	UG/KG
GA	4-8	< 562	UG/KG
GA	8-10	< 579	UG/KG
GB	9-13	3,000	UG/KG
GC	8-11	3,390	UG/KG

The North Carolina General Action Level (NCGAL) for:

Total Petroleum Hydrocarbons (TPH): Gas Range Organics (GRO) is 10 ppm = 10,000 ppb

**SHEALY ENVIRONMENTAL SERVICES, INC.**  
Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

(803) 791-9700  
FAX (803) 791-9111

CERTIFICATE OF ANALYSIS

SC DHEC No. 32010

NC DEHNR No. 329

**Client:** ESI  
620 North I-85 Service Rd.  
Charlotte, NC 28216

**Project Name:** C1512-Graham, NC

**Attention:** Diana Lanier

SHEALY Lab No. 112473NR  
Description: GA (0-4)

Coll. Date: 06/24/97  
Coll. Time:

Date Received: 06/27/97  
Date Reported: 07/08/97

QA/QC Officer *CMJ*  
V.P. Analytical *MA*

\*Based on dry weight.

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
<b>INORGANICS</b>						
% Solids	160.3	78.5	%		07/08/97	RED
<b>TPH</b>						
TPH as Gasoline	5030	<637	ug/kg		07/03/97	RED

**SHEALY ENVIRONMENTAL SERVICES, INC.**  
Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX: (803) 791-9111

SC DHEC No. 32010

NC DEHR No. 329

**Client:** ESI.  
620 North I-85 Service Rd.  
Charlotte, NC 28216

**Project Name:** C1512-Graham, NC

**Attention:** Diana Lanier

SHEALY Lab No: 112474NR  
Description: GA (4-8)

Coll. Date: 06/24/97  
Coll. Time:

Date Received: 06/27/97  
Date Reported: 07/08/97

QA/QC Officer CMJ  
V.P. Analytical \_\_\_\_\_

\*Based on dry weight.

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
<b>INORGANICS</b>						
* Solids	160.3	88.9	%	07/08/97		RED
<b>TPH</b>						
TPH as Gasoline	5030	<562	ug/kg	07/03/97		RED

**SHEALY ENVIRONMENTAL SERVICES, INC.**  
Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111

SC DHEC No. 32010

NC DEHN No. 329

**Client:** ESI  
620 North I-85 Service Rd.  
Charlotte, NC 28216

**Project Name:** C1512-Graham, NC

**Attention:** Diana Lanier

SHEALY Lab No: 112475NR  
Description: GA (8-10)

Coll. Date: 06/24/97  
Coll. Time:

Date Received: 06/27/97  
Date Reported: 07/08/97

QA/QC Officer CMF  
V.P. Analytical

\*Based on dry weight.

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
<b>INORGANICS</b>						
% Solids	160.3	86.3	%	07/08/97		RED
<b>TPH</b>						
TPH as Gasoline	5030	<579	ug/kg	07/03/97		RED

**SHEALY ENVIRONMENTAL SERVICES, INC.**  
Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111

SC DHEC No. 32010

NC DEHNR No. 329

**Client:** ESI  
620 North I-85 Service Rd.  
Charlotte, NC 28216

**Project Name:** C1512-Graham, NC

**Attention:** Diana Lanier

SHEALY Lab No: 112476NR  
Description: GB (9-13)

Coll. Date: 06/25/97  
Coll. Time:

Date Received: 06/27/97  
Date Reported: 07/08/97

QA/QC Officer cmf  
V.P. Analytical

\*Based on dry weight.

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
<b>INORGANICS</b>						
% Solids	160.3	80.6	%	07/08/97		RED
<b>TPH</b>						
TPH as Gasoline	5030	*3000	ug/kg	07/03/97		RED

Terms and Conditions on Reverse Side

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111

SC DHEC No. 32010

NC DEHNR No. 329

Client: ESI  
620 North I-85 Service Rd.  
Charlotte, NC 28216

Project Name: C1512-Graham, NC

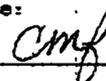
Attention: Diana Lanier

SHEALY Lab No: 112477NR  
Description: GC (8-11)

Date Received: 06/27/97  
Date Reported: 07/08/97

Coll. Date: 06/25/97  
Coll. Time:

QA/QC Officer



V.P. Analytical

\*Based on dry weight.

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
<b>INORGANICS</b>						
% Solids	160.3	84.5	%	07/08/97		RED
TPH						
TPH as Gasoline	5030	*3390	ug/kg	07/03/97		RED

Terms and Conditions on Reverse Side